

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

---

- Claim 1. (Withdrawn) A pin head for a microarraying apparatus comprising:  
a pin holder for holding an array of pins;  
a vertical drive operable to move the pin holder in a vertical axis; and  
a positioning mechanism that cooperates with the vertical drive to mechanically define a lowest point of travel for the pins in the vertical axis.
- Claim 2. (Withdrawn) A pin head according to claim 1, in which the positioning mechanism comprises a crank system having a bottom dead center position that mechanically defines the lowest point of travel.
- Claim 3. (Withdrawn) A pin head according to claim 2, in which the vertical drive comprises a rotary solenoid coupled to the pin holder by the crank system so as to transfer rotation of the rotary solenoid to linear motion of the pin holder in the vertical axis.
- Claim 4. (Withdrawn) A pinhead according to claim 2, in which the vertical drive comprises a rotary motor which is coupled to the pin holder by the crank system so as to transfer rotation of the rotary motor to linear motion of the pin holder in the vertical axis.
- Claim 5. (Original) A microarraying apparatus comprising:  
an apparatus bed defining an arraying surface for carrying one or more slides;  
a well plate platform for carrying at least one well plate; and  
a height adjustment mechanism operable to alter the height of the well plate platform relative to that of the apparatus bed.
- Claim 6. (Currently Amended) A microarraying apparatus, comprising:

an apparatus bed defining an arraying surface for carrying one or more slides;  
a well plate platform for carrying at least one well plate; and  
a manually actuatable ~~according to claim 5, in which the~~ height adjustment mechanism operable to alter the height of the well plate platform relative to that of the apparatus bed is manually actuatable.

Claim 7. (Original) A microarraying apparatus according to claim 6, in which the height adjuster is provided with a distance scale indicative of the height of the well plate platform relative to that of the apparatus bed.

Claim 8. (Currently Amended) A microarraying apparatus, ~~according to claim 5, further~~ comprising:

an apparatus bed defining an arraying surface for carrying one or more slides;

a well plate platform for carrying at least one well plate;

a height adjustment mechanism operable to alter the height of the well plate platform relative to that of the apparatus bed;

a mounting frame mounted over the apparatus bed; and

a pin head mounted on the mounting frame and being provided with a drive system operable to move the pin head across the arraying surface, the pin head comprising a pin holder for holding an array of pins, a vertical drive operable to move the pin holder in a vertical axis transverse to the arraying surface, and a positioning mechanism that mechanically defines a bottom position of the pin holder.

Claim 9. (Original) A microarraying apparatus according to claim 8, further comprising a height adjustment arrangement manually operable to adjust the bottom position by adjusting a vertical distance between the mounting frame and the pin head.

Claim 10. (Original) A microarraying apparatus according to claim 8, in which the positioning mechanism comprises a crank system having a bottom dead center

and coupled to the pin holder so that the pin holder achieves its lowest position when the crank system is at bottom dead center.

Claim 11. (Original) A microarraying apparatus according to claim 10, in which the vertical drive comprises a rotary solenoid which is coupled to the pin holder by the crank system, the crank system operable to transfer motion produced by the rotary solenoid to the pin holder.

Claim 12. (Original) A microarraying apparatus according to claim 10, in which the vertical drive comprises a rotary motor which is coupled to the pin holder by the crank system, the crank system operable to transfer motion produced by the rotary motor to the pin holder.

Claim 13. (Withdrawn) A head apparatus for a microarraying apparatus comprising:  
a mount adapted to attach to a microarraying apparatus;  
a pin holder for holding an array of pins;  
a vertical drive operable to move the pin holder in a vertical axis;  
a positioning mechanism that cooperates with the vertical drive to mechanically define a lowest point of travel of the pin holder in the vertical axis; and a height adjustment arrangement operable to allow the lowest point of travel to be adjusted relative to the mount.

Claim 14. (Withdrawn) A spotting method using a microarrayer having an apparatus bed and a well plate platform, the method comprising:  
arranging at least one slide on the apparatus bed to provide a spotting surface;  
arranging a well plate filled to a level with spotting liquid on the well plate platform;  
vertically aligning the well plate platform relative to the apparatus bed so that the spotting surface lies at a desired height at or below the level of the spotting liquid;

dipping a pin from a pin head into the spotting liquid by moving the pin to a lowered position;  
moving the pin head across the microarrayer to a spotting position; and  
depositing the spotting liquid onto the spotting surface by moving the pin once again to the lowered position.

Claim 15. (New) A microarraying apparatus according to claim 8, wherein said height adjustment mechanism is manually actuatable.

Claim 16. (New) A spotting method using the microarraying apparatus of claim 6, the method comprising:

arranging at least one slide on the apparatus bed to provide a spotting surface;  
arranging a well plate filled to a level with spotting liquid on the well plate platform;

vertically aligning the well plate platform relative to the apparatus bed by manually actuating the height adjustment mechanism so that the spotting surface lies at a desired height at or below the level of the spotting liquid;

dipping one of the pins from the pin head into the spotting liquid by moving the pin to a lowered position;

moving the pin head across the microarraying apparatus to a spotting position;  
and

depositing the spotting liquid onto the spotting surface by moving the pin once again to the lowered position.

Claim 17. (New) A spotting method using the microarraying apparatus of claim 8, the method comprising:

arranging at least one slide on the apparatus bed to provide a spotting surface;  
arranging a well plate filled to a level with spotting liquid on the well plate platform;

vertically aligning the well plate platform relative to the apparatus bed so that the spotting surface lies at a desired height at or below the level of the spotting liquid;

dipping one of the pins from the pin head into the spotting liquid by moving the pin to a lowered position defined by the bottom position of the pin holder; moving the pin head across the microarraying apparatus to a spotting position; and

depositing the spotting liquid onto the spotting surface by moving the pin once again to the lowered position.

Claim 18. (New) A spotting method using a microarraying apparatus having an apparatus bed, a pin head holding a plurality of pins, and a well plate platform, the method comprising:

arranging at least one slide on the apparatus bed to provide a spotting surface;

arranging a well plate filled to a level with spotting liquid on the well plate platform;

vertically aligning the well plate platform relative to the apparatus bed so that the spotting surface lies at a desired height at or below the level of the spotting liquid;

dipping one of the pins from the pin head into the spotting liquid by moving the pin to a lowered position;

moving the pin head across the microarraying apparatus to a spotting position; and

depositing the spotting liquid onto the spotting surface by moving the pin once again to the lowered position.

Claim 19. (New) The method of claim 18, wherein the vertical aligning step is performed by manual actuation of a height adjustment mechanism operable to alter the height of the well plate platform relative to that of the apparatus bed.



Claim 20. (New) The method of claim 18, wherein the pin head has a mechanically defined bottom position.

---